

Application No. 09/558,053

Reply to the Notice of Allowance of October 9, 2003

REMARKS

Favorable reconsideration of this application is respectfully requested.

Claims 29-33 and 35-40 are present in this application.

A Notice of Allowance was issued in this application on October 9, 2003. In the Notice of Allowability, issued on the same day, the examiner provided a statement of reasons for allowance. On page 3, the examiner noted

"Chow et al. fail to teach the step of removing the second and first insulating film using the same etching mask, wherein said mask is formed on said third insulating film and in another part of said portion of the second insulating film which is exposed to the groove; and controlling the deposition of copper to avoid formation of a native oxide."

This statement appears to relate to claim 29.

On review of the file, it was noticed that a discrepancy existed between the clean and marked-up copies in the amendment filed February 21, 2003. In particular, for the removing step the marked-up copy stated:

removing a part of that portion of the second insulating film which is exposed to the groove, and a part of the first insulating film under the portion of the second insulating film, using the same etching mask formed on said third insulating film and on another part of said portion of the second insulating film which is exposed to the groove, and thus forming a contact hole reaching to the semiconductor substrate;

While the clean copy stated:

removing a part of that portion of the second insulating film which is exposed to the groove, and a part of the first insulating film under the portion of the second insulating film, using the same etching mask covering said third insulating film and another part of said portion of the second insulating film which is exposed to the groove, and thus forming a contact hole reaching to the semiconductor substrate; and

The etching mask is "covering" the third insulating film and the another part of the portion of the second insulating film in the clean copy while the etching mask is "formed on" the third insulating film and on another part of the portion of the second insulating film in the marked-up copy. The clean copy of claim 29 in the September 3, 2003 amendment contained

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the "covering" language. The "covering" language is the language desired by the applicants and the language previously argued for patentability, as discussed below.

Applicants' representative subsequently contacted Examiner Maldonado to discuss the discrepancy in claim 29. After some discussion, Examiner Maldonado requested the filing of this paper to provide a clean copy of the claims using the language desired by the applicants and to place in the written record the request to consider the patentability of the "covering" language.

Examiner Maldonado also asked to make reference, in this paper, to the discussions that have taken place subsequent to the allowance of the application. In these discussions, Applicants' representative has explained how the discrepancy occurred, pointed to the above-quoted language in the Notice of Allowability, and relayed the fact that the applicants wish to adhere to the "covering" language in the clean copy of claim 29. It was also discussed how to have the "covering" language considered and how to make this consideration a part of the written record. Lastly, Examiner Maldonado explained that there was a question whether the "covering" language was patentable since it was not clear whether it had been considered during prosecution.

In the previous amendment (filed September 3, 2003), the "covering" language was referenced on page 5 in the discussion of claim 29. In the first full paragraph on page 7 of the previous response the "covering" language was quoted in discussing the Cochran et al. reference. Thus, the Applicants clearly sought to obtain the allowance of claim 29 having the "covering" language.

The applicants respectfully submit that claim 29 in clean form as present above is allowable. As pointed out in the previous amendment, the only reference asserted to teach the removing step of claim 29 is Cochran et al. As explained on page 7 of the previous

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response, Cochran et al. fails to suggest a method where an etching mask covering a third insulating film and another part of the portion of the second insulating film which is exposed to the groove is used. In particular, no portion of mask 35 covers any portion of layer 25 exposed to the groove.

Moreover, the teachings of Cochran et al. are applied to Chow et al. In Chow et al. a mask is used to etch layer 8 to form the structure shown in Fig. 4. Such a mask does not cover both the third insulating film and another part of a portion of an insulating film exposed to the groove since, clearly, the openings in the mask correspond to the pattern etched into layer 8, and thus no portion of the mask would cover any part of film 6 which is exposed to a groove. Accordingly, claim 29 is clearly patentably distinguishable over the applied prior art in the clean copy form as presented in this paper.

Confirmation of the allowance of this application is respectfully requested since the applied prior art does not disclose or suggest the method of claim 29.

Respectfully submitted,

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